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SUBJECT: ATOMIC ENERGY CHAIRMAN KAKODKAR SHARES CANDID  
OVERVIEW WITH NRC CHAIRMAN KLEIN

REF: NEW DELHI 2975

Classified By: CDA Steven White for Reasons 1.4 (B and D)

11. (SBU) This cable was cleared by NRC staff.

12. (C) SUMMARY. Department of Atomic Energy (DAE) Chairman Anil Kakodkar provided visiting Nuclear Regulatory Commission (NRC) Chairman Dale Klein November 18 in Mumbai with an unprecedentedly candid overview of India's plans and expectations for civil nuclear cooperation with the U.S. He cautioned about the extreme sensitivities on fuel supply assurances and reprocessing consent rights, but said he no longer foresaw any difficulties. He outlined India's ambitious research agenda and expansion plans -- 30,000-40,000 MW in the next 15-20 years -- and expressed confidence that Indian industry was up to the challenge. Kakodkar did not foresee difficulties signing the IAEA Safeguards Agreement. Despite the Indian Government's efforts to fast-track the Convention on Supplementary Compensation for Nuclear Damage (CSC), passing the requisite domestic legislation could take some time.

13. (C) SUMMARY CONTINUED. Kakodkar revealed that India's Nuclear Power Corporation (NPCIL), a state monopoly, planned to seek joint ventures with private firms in the nuclear power generating and management sector, possibly including foreign firms. NPCIL would initially maintain a majority stake. Kakodkar showed a lack of familiarity but a keen interest in the U.S. private utility system, confessing fears "not only of Tarapur, but also of Enron." Chairman Klein stressed that U.S. industry remained at the cutting edge of every facet of the nuclear industry, explained the U.S. licensing and regulatory process, and suggested that Kakodkar visit the U.S. to see first-hand how our system worked. END SUMMARY.

Cooperation "Built on a Firm Foundation"

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14. (SBU) Department of Atomic Energy (DAE) Chairman Anil Kakodkar told visiting Nuclear Regulatory Commission (NRC) Chairman Dale Klein November 18 in Mumbai that he was pleased with existing cooperation with the NRC and welcomed expanded cooperation made possible by the conclusion of the U.S.-India Civil Nuclear Cooperation Agreement (the 123 Agreement). Also in attendance were Nuclear Power Corporation of India Limited (NPCIL) Chairman S.K. Jain and Ministry of External Affairs (MEA) Joint Secretary for External Relations Gitesh Sarma, along with a half-dozen other DAE and NPCIL officials.

15. (C) Kakodkar pointedly observed that the Indian nuclear program originated through cooperation with the U.S. at Tarapur and that while he was "extremely keen to build cooperation with the United States," he stressed repeatedly that this new era of cooperation must be built on a "firm foundation." "Extreme sensitivities" remain in two key areas, according to Kakodkar: fuel supply assurances and reprocessing consent rights. Although the U.S. and Indian governments "approached the edge" on these issues at several points during the 123 Agreement negotiations, Kakodkar was not aware of any outstanding issues. He observed that there was a great deal of work to do during this "period of transition" while the Indian Government completes the requirements to implement the Agreement and begins consultations with industry prior to moving forward with commercial contracts.

16. (C) Kakodkar said India remained committed to the vision

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of competitive and sustainable three-stage, Thorium-based civil nuclear power first articulated by the founder of India's nuclear program, Homi Bhabha, underscoring India's continuing need for enrichment and reprocessing technology (ENR). India's sustainable development in the face of growing energy needs requires that it make full use of every energy source, including Thorium. Kakodkar said he understood U.S. restrictions on trade in ENR, but hoped the U.S. would "maintain a positive orientation toward the issue" and "not let it get into the negative domain" so that one day we might "pick it up again." He inquired whether the NRC would play a role in negotiating the reprocessing agreement and administrative arrangement called for in the 123 Agreement (articles 6iii and 17, respectively), but concluded that the Department of Energy would be the most appropriate interlocutor.

India's Ambitious Nuclear Energy Goals

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17. (C) India will expand its nuclear power generating capacity by 30,000-40,000 MW in the next 15-20 years, according to Kakodkar. Confident that Indian industry would mobilize to support this ambitious scale of construction, he observed that Indian industry had already shown it could support the construction of nine reactors simultaneously. Indian industry had ambitions not only for the Indian program, but also for a wider market. He cautioned, however, that DAE had to demonstrate for each and every project that nuclear power could compete favorably with the alternatives, such as coal. To do so, DAE would need to maximize the supply chain in Indian industry. Kakodkar said he planned to encourage tie-ups with Indian manufacturers, which have lower labor costs (a central factor in high technology manufacture).

18. (C) Kakodkar outlined several of DAE's admittedly "ambitious" goals and research priorities. DAE was pushing ahead with development of its Advanced Heavy Water Reactor (AHWR). (Note: The AHWR is a 750 MW Pressurized Heavy Water Reactor (PHWR), India's next-generation derivative of a Canadian CANDU-type reactor.) DAE hoped to design a reactor with an operating life span of 100 years. Kakodkar showed interest in Chairman Klein's description of NRC's "life past

60" program, which looked at licensing reactor life extensions of up to 80 years. DAE also aspired to design a reactor requiring little involvement outside the plant itself and with an operator forgiving period -- i.e. the ability to safely operate without human involvement -- of up to 72 hours. Finally, DAE hoped to design a reactor constructed from virtually no equipment classified as nuclear class 1 that "maximizes use of run-of-the-mill equipment." Kakodkar commented that India was "not afraid of complex technology," but was rather "a champion of simple designs."

#### IAEA Safeguards, Liability Protection, and Licensing

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¶9. (C) Chairman Klein stressed that signing the IAEA Safeguards Agreement should be a top priority, and that implementing the Convention on Supplementary Compensation for Nuclear Damage (CSC) would not only enable U.S. firms to work in India, but also help Indian firms do business outside India. Kakodkar did not foresee any problems with signing the IAEA Safeguards Agreement. He expressed confidence that it would be signed in a timely manner, but added cryptically that India was taking the process "step by step" to be sure that all reactors put under safeguards would "remain eligible for international cooperation." The Indian Government

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accelerated the inter-ministerial consultation process on the CSC, but Kakodkar cautioned that passing the requisite domestic legislation was a lengthy process that could be further complicated by the election of a new parliament early next year. He concluded that implementation of the CSC depended not on overcoming any particular difficulties, but rather on how soon the legislative process could be completed.

¶10. (C) Kakodkar said he did not want the CSC to become the bottleneck in cooperation with U.S. firms and inquired how long U.S. vendors would need to clear the U.S. regulatory process. Chairman Klein replied that it would probably take longer for the Indian Government to negotiate commercial deals with U.S. firms than for those firms to complete the NRC regulatory process. On licensing, Klein recalled that during the course of the 123 negotiations the NRC committed to processing licenses within four months and suggested that provided India implements its IAEA Safeguards Agreement the licenses should sail smoothly through the NRC. Klein added that even if the process were to take longer, it might be possible for U.S. vendors to sign contracts subject to issuance of an NRC license.

¶11. (C) NPCIL Chairman S.K. Jain said U.S. firms would also require Indian licenses from the Atomic Energy Regulatory Board (AERB), adding that the AERB would only look at designs licensed in the country of origin. (Note: This is a reference to General Electric's Economically Simplified Boiling Water Reactor (ESBWR), which has not yet been licensed by the NRC. Westinghouse's AP 1000 is already licensed by the NRC.) Jain said NPCIL has begun exploratory discussions with both GE and Westinghouse on technical evaluation, implementation and construction, and finance.

#### Joint Ventures in Nuclear Power Generation

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¶12. (C) Asked about NPCIL's readiness to manage the envisioned rapid expansion of India's nuclear sector, Kakodkar said -- and NPCIL Director Jain agreed -- that the plan was to allow joint ventures with NPCIL in the nuclear power generating and management sector. He added that NPCIL would set up the operations for each new plant and retain a majority, controlling stake until the capabilities of the minority stakeholders could be established.

¶13. (C) Kakodkar confessed that although he favored renewed cooperation with U.S. firms, he was haunted by images "not only of Tarapur, but also of Enron." He asked hypothetically

what would happen in the U.S. system if a utility decided that a particular power reactor was no longer profitable. Chairman Klein explained that the NRC must approve a license transfer to a new operator. The NRC also required companies to establish a decommissioning fund controlled by the NRC in the event the operator was unwilling or unable to continue operating, sell, or decommission a facility. Klein added that operators were subject to both civil and criminal penalties in the event of serious malfeasance.

¶14. (SBU) Klein suggested that it would be useful for Kakodkar to visit the U.S. to see first-hand how our system worked. He also stressed that U.S. industry remained at the cutting edge of every facet of the nuclear industry, with 20 percent of the electricity generated in the U.S. from nuclear power.

Comment  
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¶15. (C) The typically aloof Kakodkar was candid and welcoming in his first meeting with a senior U.S. delegation since the signing of the 123 Agreement. In particular, his revelation of a possible role for private firms in the nuclear power generating sector -- including possibly foreign firms -- would constitute a tectonic shift for NPCIL, which has jealously guarded its state monopoly of nuclear power generation. U.S. industry representatives have told Post that there are two potential stages of foreign and private Indian participation in India's civil nuclear sector: a first stage allowing construction, equipment sales, engineering, and services; and a second stage allowing participation in operating nuclear power plants and holding equity. Kakodkar and Jain seemed to accept that managing the envisioned expansion in generating capacity would exceed NPCIL's capabilities and therefore require at least some assistance beyond the first stage. Kakodkar evinced unfamiliarity with and suspicion of the U.S. system of private utilities. His questions suggested that the Indian Government may be debating the scale of regulatory reforms. Such changes would be unprecedented, but also require amendments to India's Atomic Energy Act and other legal and regulatory changes that could take years to complete.

Participants  
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¶16. (SBU) Government of India Participants:  
-- Anil Kakodkar, Chairman, Department of Atomic Energy (DAE);  
-- S.K. Jain, Chairman, Nuclear Power Corporation of India Limited (NPCIL);  
-- Gitesh Sarma, Joint Secretary for External Relations, Ministry of External Affairs;  
-- V.C Agrawal, DAE;  
-- G. Nageswara Rao, DAE;  
-- S. Thakur, DAE;  
-- K.B. Dixit, NPCIL; and  
-- Umesh Chandra, NPCIL.

¶17. (SBU) U.S. Participants:  
-- Dale E. Klein, Chairman, U.S. Nuclear Regulatory Commission (NRC);  
-- Scott Moore, Deputy Director, Office of International Programs, NRC;  
-- Elizabeth Doolittle, Senior International Relations Officer, NRC;  
-- Clare Kasputys, International Budget Assistant, NRC;  
-- Jim Lyons, Office of Research, NRC;  
-- Richard Lee, Office of Research, NRC;  
-- Mohsen Khatib-Rahbar, Consultant to the Office of Research, NRC;  
-- Paul Folmsbee, Consul General, Consulate Mumbai;  
-- Satish Kulkarni, Science Minister-Counselor, Embassy New Delhi; and

-- David Holmes, Political Officer, Embassy New Delhi.

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